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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
LELE, TANMAY S

ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PRA

Office Action Summary	Application No.	Applicant(s)	
	10/075,083	BRINKLEY ET AL.	
	Examiner	Art Unit	
	Tanmay S Lele	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claim 5 and 18 are objected to because of the following informalities: state "at least one" and use the all inclusive "and." For examining purposes it was assumed the "and" was meant to "or, " (to accommodate the "at least one" terminology. Appropriate correction is required.

2. Claim 20 is objected to because of the following informalities: "A429 bus". For examining purposes, it was assumed to be an "ARINC 429 bus." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 24 recites the limitation "said remote controllable switch" in line 12 of claim 24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1 – 5, 7 –9, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505).

Regarding claim 1, Wright teaches of a method for wirelessly communicating data

between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising (column 1, lines 42 – 47 and column 7 lines 2 – 7): wirelessly communicating download data for one said avionics unit from the data communication apparatus from an aircraft data services link in the aircraft (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8) and electronically communicating said download data from said data communication apparatus to said avionics unit (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29 and column 6, lines 25 –41).

Wright does not explicitly teach of electronically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an avionics programming terminal, Houlberg teaches of electronically switching a communication path [from said aircraft data services link to said avionics unit] responsive to said download data or of [electronically communicating said download data from said data communication apparatus to said avionics unit] via said electronically switched communication path (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Regarding claim 2, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said wirelessly communicating download data comprises wirelessly communicating said download data via a wireless spread spectrum link (column 2, lines 25 – 29 and column 5, lines 43 – 47).

Regarding claim 3, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Houlberg further teaches of further comprising electronically communicating fault information pertaining to said download data from said avionics unit to said aircraft data services link via an electronically switched communication path (starting column 32, line 67 and ending column 33, line 4), and Wright further teaches of wirelessly communicating [said fault information] from said aircraft data services link to said data communication apparatus (column 6, lines 25 – 41).

Regarding claim 4, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 1. Wright further teaches of comprising electronically communicating aircraft performance data from an aircraft condition monitoring system on said aircraft to said aircraft data services link (column 5, lines 48 – 64 and starting column 6 line 59 – and ending column 7, line 7), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 6, lines 25 – 41).

Regarding claim 5, Wright in view of Houlberg, teach all the claimed limitations as recited in claim 4. Wright further teaches of comprising said aircraft condition monitoring system obtaining said aircraft performance data via an electronic communication from at least one member of the group consisting of an aircraft communication and reporting system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition

unit on the aircraft (column 5, lines 38 – 64 and further in starting column 6, line59 and ending column 7, line 33).

Regarding claim 7, Wright in view of Houlberg teach all the claimed limitations as recited in claim 1. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 8, Wright in view of Houlberg teach all the claimed limitations as recited in claim 1. Wright further teaches of wherein said download data comprises flight operations quality assurance data (column 6, lines 25 – 41).

Regarding claim 9, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising: electronically communicating data from said avionics unit to said aircraft data services link (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29) and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 6, lines 25 –41).

Wright does not specifically teach of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] and [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an avionics programming terminal, Houlberg teaches of electronically switching a communication path [from one said avionics unit to an aircraft data

services link in the aircraft] and [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Regarding claim 11, Wright in view of Houlberg teach all the claimed limitations as recited in claim 9. Wright further teaches of comprising electronically communicating aircraft performance data from at least one member of a group consisting of an aircraft condition monitoring system on said aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit to said aircraft data services link (column 4, lines 49 – 55 and column 6, lines 34 – 41 and starting column 6, line 59 and ending column 7, line 12), and wirelessly transmitting said aircraft performance data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and column 6, lines 26 – 42).

Regarding claim 12, Wright teaches of a method for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus, said method comprising electronically communicating data from said avionics unit to said aircraft data services link (Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 7, lines 13 – 29); and wirelessly communicating said data from said aircraft data services link to said data communication apparatus (column 1, lines 42 – 47 and Figures 13 and 14 and starting column 6, line 59 and ending column 7, line 8 and column 6, lines 25 –41).

Wright does not specifically teach of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] or [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (though makes reference to multiple units coupled to a data line).

In a related art dealing with an avionics programming terminal, Houlberg teaches of electronically switching a communication path [from one said avionics unit to an aircraft data services link in the aircraft] or [electronically communicating data from said avionics unit to said aircraft data services link] via said electronically switched communication path (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

7. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) as applied to claims 1 and 9 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claims 6 and 10, Wright in view of Houlberg, teach all the claimed limitations as recited in claims 1 and 9. Wright in view of Houlberg, do not specifically teach of wherein said electronically switched communication path comprises an ARINC 429 bus.

In a related art dealing with avionics equipment, Weiler teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (column 6, lines 14 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

8. Claims 13 – 16, 18, 19, and 21 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) in further view of Bird et al. (Bird, US Patent No. 5,079,707).

Regarding claim 13, Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 – 47 and column 4, lines 49 – 55): an aircraft data services link having a processor, means for wirelessly transmitting and receiving data to and from a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 – 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to provide data communication between a selectively coupled avionics unit and the data communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30).

Wright does not specifically teach of an electronic switch, [a plurality of avionics units coupled] to said remotely controllable switch, or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with an avionics programming terminal, Houlberg teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Wright in view of Houlberg, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

Regarding claim 14, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further discloses the use of the ISM 2.4 GHz band as the medium for transmission and reception and further details the use of a spread spectrum

transceiver (column 9, lines 20 – 49 and column 12, lines 9 – 40). However, Wright does not explicitly show of using the 802.11 standard for the transceiver. The use of 802.11 is a matter of system preference and it should further be noted that many of the parameters detailed by Wright in the cited passages, are all facets of the 802.11b standard (ie frequency range, multiple access scheme, data rates, the inclusion of multiple modulation techniques, ect) and thus Examiner takes "Official Notice." Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Houlberg and Bird, with the 802.11 standard for communications purposes, as taught inferred by Wright.

Regarding claim 15, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said means for wireless transmitting and receiving comprises a spread spectrum receiver and transmitter (column 9, lines 20 – 49 and column 12, lines 9 – 40).

Regarding claim 16, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches the use of utilizing the ISM 2.4 GHz band as the range for transmission and reception of data. However, Wright does not teach wherein said means for wireless transmitting and receiving comprises an IEEE 802.11a receiver and transmitter. The use of 802.11a is a matter of system preference and thus Examiner takes "Official Notice." Therefore, it would have been obvious to one skilled in the art at the time of invention to have combined Wright in view of Houlberg and Bird, with the 802.11a standard for communications purposes in an unlicensed ISM band, as taught inferred by Wright (note that 802.11a resides in the 5.8 GHz band).

Regarding claim 18, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of comprising further comprising an aircraft condition monitoring system on the aircraft (Figure 13 and column 6, lines 50 – 58), said aircraft condition monitoring system electronically coupled to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12), wherein said processor is responsive to data transferred from said aircraft condition monitoring system to said aircraft data services link (starting column 6, line 59 and ending column 7, line 12) and configured to schedule wireless transmission of said data transferred from said aircraft condition monitoring system to the data communication apparatus column 6, lines 26 – 49).

Regarding claim 19, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 18. Wright further teaches of comprising at least one member of the group consisting of an aircraft communication and reporting system on the aircraft, a maintenance control display unit on said aircraft, and a digital flight data acquisition unit on the aircraft (column 7, lines 1 – 7), and wherein said at least one member is operatively coupled to said aircraft condition monitoring system to communicate information to data communication apparatus wirelessly via said aircraft data services link (column 5, lines 38 – 64 and further in starting column 6, line59 and ending column 7, line 33).

Regarding claim 21, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches wherein said download data comprises an ARINC 615 or ARINC 615A compliant data (column 31, lines 46 – 54).

Regarding claim 22, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of wherein said aircraft data services

link includes a memory coupled to said processor (as seen in Figure 13 and column 7, lines 16 - 29), and said processor is configured to maintain a database in said memory containing version identifiers of software in said avionics units (Figure 13 and column 7, lines 13 – 29 and column 5, lines 56 – 64), and to update said database when data transmitted from said data communication apparatus is communicated to an avionics unit via said aircraft data services link (Figure 13 and column 7, lines 13 – 29).

Regarding claim 23, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright further teaches of configured to wirelessly download flight quality assurance data (column 6, lines 25 – 40).

Regarding claim 24, Wright teaches of an Wright teaches of an apparatus for wirelessly communicating data between a plurality of avionics units on an aircraft and a data communication apparatus external to the aircraft, said apparatus comprising, onboard an aircraft (column 1, lines 42 – 47 and column 4, lines 49 – 55): an aircraft data services link having a processor, means for wirelessly transmitting to a data communication apparatus external to the aircraft (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 29), a plurality of avionics units (column 7, lines 2 – 7); wherein said processor is responsive to data received from the data communication apparatus via said means for wireless transmitting and receiving to provide data communication between a selectively coupled avionics unit and the data communication apparatus via said aircraft data services link (as seen in Figures 13 and 14 and detailed starting column 6, line 59 and ending column 7, line 30).

Wright does not specifically teach of [a plurality of avionics units coupled] to said remotely controllable switch, or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with an avionics programming terminal, Houlberg teaches of an electronic switch and [a plurality of avionics units coupled] to said switch (column 6, lines 32 – 36).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright's programming method, Houlberg's switching means, for the purpose of reprogramming selected avionics equipment in a rapid manner, as taught by Houlberg.

Wright in view of Houlberg, still do not teach of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link].

In a related art dealing with avionics testing, Bird teaches of a remote controllable switch or to control said electronic switch [to selectively couple said avionics units to said aircraft data services link] (column 5, lines 45 – 63).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright and Houlberg's communication system, Bird's controllable switch, for the purposes of certifying avionics equipment without human intervention (and thus possible error), as taught by Bird.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) in view of Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above,

and further in view of CNS Systems Inc. (CNS Systems, INC, "Data for the Air Transport Industry").

Regarding claim 17, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Houlberg and Bird, do not specifically teach of teach wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter.

In a related art dealing with airline data communications, CNS Systems Inc, teaches of wherein said means for wireless transmitting and receiving comprises an amplitude modulation receiver and transmitter (page 2).

It would have been obvious to one skilled in art at the time of invention to have included into Wright, Houlberg, and Bird's communication system, CNS Systems Inc's AM modulation scheme, for the purposes of cost savings, as taught by CNS Systems Inc.

10. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. (Wright, US Patent No. 6,160,998) in view of Houlberg et al. (Houlberg, US Patent No. 5,307,505) and Bird et al. (Bird, US Patent No. 5,079,707) as applied to claim 13 above, and further in view of Weiler et al. (Weiler, US Patent No. 5,970,395).

Regarding claim 20, Wright in view of Houlberg and Bird, teach all the claimed limitations as recited in claim 13. Wright in view of Houlberg and Bird, do not specifically teach of wherein said electronically switched communication path comprises an ARINC 429 bus.

In a related art dealing with avionics equipment, Weiler teaches of wherein said electronically switched communication path comprises an ARINC 429 bus (column 6, lines 14 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into Wright, Houlberg and Bird's programming method, Weiler's bus, for the purposes of using a standardized bus already present on aircraft (thus preventing the need for additional hardware) as taught by Weiler.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday - Thursdays and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (703) 305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Tanmay S Lele
Examiner
Art Unit 2681

DWAYNE BOST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

tsl
February 3, 2003